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ABSTRACT

A study used disproportionate exemplar distributions to create a spiral of silence effect for a morally loaded issue. The effect of perception of public opinion on willingness to express an opinion was also examined. Three video news stories were created that would represent either a supporting, balanced, or opposing stance on the prayer in school issue. A news anchor's lead-in from a local newscast was used in all three stories, and an actor's voice simulated a reporter covering the issue. Video of students praying in school was used to accompany the voice. Six participants previewed the videos; none noticed anything unusual about the manipulated versions. College students were recruited (for extra credit) for an experimental session--20 exposure sessions averaged 4.9 participants in each. Participants were shown 3 news stories; the second story focused on a proposed prayer in school amendment. Questionnaires on public opinion--participants were asked if they agreed or disagreed with each of the 3 issues--also contained questions on the newscasts' quality. Demographic information about the respondents was collected, including data on media usage, gender, and political affiliation. Results revealed that the spiral of silence theory fell short in explaining effects on "debate expression," although some support for spiral of silence effects was found on "public display expression." This study may encourage the adoption of further behavioral response research related to expression; it also helped shed light on the different forms the expression construct may assume. (Contains 6 tables of data and 40 references.) (NKA)

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Creating a Spiral of Silence through Disproportionate Exemplar Distribution: Does It Work?

by

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Creating a Spiral of Silence through Disproportionate Exemplar Distribution: Does It Work?

Abstract

This research project uses disproportionate exemplar distributions in an attempt to create a spiral of silence effect for a morally loaded issue. Expression is measured using factor analysis of survey items as well as behavioral measures. Mild support for an effect is found on a "public display expression" factor. Opinion is found to be predictive of speaking out and implications for expression constructs are discussed.

Introduction

Communicating information effectively in the media, whether through broadcast or in print, necessitates the use of several tools that convey meaning. These tools include facts and figures, examples, stories, and testimonials. Since both print and electronically disseminated methods of communicating messages require limits on the amount of information that can be conveyed in a given space or amount of time, precision must be used in selecting which tools to use to convey the information most clearly and effectively (Blythin & Samovar, 1985).

Journalists combine these tools in order to make a news story convey information effectively. The tools have been grouped into two subcategories to simplify examination. The first type of information, "base-rate," is to be bolstered with the use of the second type, "exemplars."

Research literature often refers to facts and figures as base-rate information. This includes using the exact numbers represented on each side of an issue, or very general, using terms like "most," "some," or "lots" (Brosius & Bathelt, 1994; Gibson, 1993).

An exemplar, on the other hand, is episodic information that "describe(s) causes, importance, and consequences of the problem under consideration from the unique perspective of an individual" (Brosius & Bathelt, 1994, p. 48). Examples, stories, and testimonials serve as

exemplars. Testimonial exemplars are of a personal nature and involve first-hand information from participants in an event or those personally affected by a situation. Impersonal exemplars, such as the word of experts in a field, are also used to add credibility to a story. Exemplars can also be relayed by reporters, but these are not employed in this research. This research project looks at how the distribution of exemplars representing a given point of view affects people's willingness to express themselves when the issue in question is controversial and morally-loaded.

Exemplar Effects

The use of exemplars in print news, on the radio, and on TV has been shown to influence the perception of public opinion dramatically. Brosius and Bathelt (1994) conducted studies using both print and radio news stories, finding that perception of public opinion was directly related to the percentage of exemplars representing each side of an issue. This held true even when opposing base-rate information was presented in the story. Some stories included unambiguous base-rate information such as "a large majority of people . . . ."

A study featuring magazine news stories that incorporated specific base-rate information such as "one-third of all . . ." also found that perception of opinion mirrored the distribution of exemplars, opposing base-rate information not withstanding (Zillmann, Gibson, Sundar, & Perkins, 1994). Other studies of magazine news have found similar results (Gibson & Zillmann, 1994). A study using television newscasts again found that perceived opinions varied in the direction of the exemplar distribution. Base-rate information was not included in the television study (Gan, Hill, Pschernig, & Zillmann; 1994).

Effects of exemplars on actual opinion have also been observed with opinion following the perceived trend of the majority. Participants' actual opinions on these issues moved in the opposite direction from base-rate information when the stated base-rate information was in conflict with the distribution of exemplars (Brosius & Bathelt, 1994).

The existence of disproportionate exemplar distributions in the news media has been confirmed in the past (see Noelle-Neumann & Mathes, 1987). For example, exemplars portraying Israeli support for a massacre of Arabs in Hebron outnumbered the opposing viewpoint enough to

prompt some media self-examination (Gan et. al, 1994). Gibson (1993) found disproportionate representation of severe injuries or deaths resulting from carjackings. Another study showed that the distribution of newspaper reports of causes of death differed significantly from the actual distribution of causes (Combs & Slovic, 1979).

The effect of disproportionate exemplar distributions should be carried out farther. According to the spiral of silence theory, the ability of exemplars to affect an individual's perception of public opinion also should affect one's willingness to express an opinion on the issue in public.

The Spiral of Silence Effect

Bandura (1994) wrote that vicarious thought verification is the process of seeing what other people's judgments are about a subject. "When experiential verification is either difficult or impossible, people evaluate the soundness of their beliefs by comparing them to the judgments of others" (p. 65). Thus, they scan their environment for the climate of public opinion by using tools such as exemplars. People act on their images of reality. Therefore, the more they depend on the media for these images, the greater the media's social impact will be. The impact of this vicarious thought verification often results in the suppression of expression according to the spiral of silence theory.

The public opinion concept refers to the way in which "the commonwealth is held together by prevailing views, habits and prescribed behavior," from which none can deviate "without running the risk of being ostracized" (Noelle-Neumann, 1989, p. 6). It is the fear of being ostracized that drives the theory of the spiral of silence (Keenan, 1991; Noelle-Neumann, 1974; 1984; 1989; 1993).

Fear of isolation. Experiments by Asch (1951) showed that people are often willing to ignore what they know to be right in order to conform to the group. This phenomenon is known as the "fear of isolation" in spiral of silence theory. In one experiment, participants were shown a set of lines and asked to identify the shortest one. After a group of confederates all chose a longer line as the correct choice, 35% of participants conformed to majority pressure and also chose the

obviously incorrect line. Noelle-Neumann (1973; 1974; 1977; 1984; 1989; 1991; 1993) stresses fear of isolation as the first element in the spiral of silence theory (see also Salmon & Neuwirth, 1990). This notion suggests that individuals will alter their behavior (i.e. speaking out on an issue) due to an innate fear of social isolation in an attempt to avoid society's disapproval and to avoid being ostracized. When they perceive their opinion to be congruent with that of the majority, they will be more likely to speak up. On the other hand, when they perceive their opinion to be at odds with that of the majority, they will suppress their own expression. This tenet of the theory can be modeled as:

Fear of Isolation[1] => *Speaking Out*

Some researchers have supported this contention (Gonzenbach, 1992; Mohn, 1992). Other researchers have questioned the fear of isolation concept (Price & Allen, 1990; Salmon & Kline, 1985; Salmon & Oshagan, 1990; Salmon & Neuwirth, 1990; Scherer, 1991). Others have suggested a more moderate course, suggesting that the theory be extended and that fear of isolation is one of many reasons people alter their willingness to speak out on issues, including not wanting to hurt people's feelings, avoiding conflict, and shyness (Keenan, 1991; Lashin, 1985). Keenan (1991) did find, however, that fear of isolation was the most commonly mentioned reason for remaining silent on issues.

Morally loaded topics. Noelle-Neumann emphasizes that in order for fear of isolation to impact a person's decisions and actions, there must be a strong emotional component to an issue. Thus the spiral of silence only operates for morally loaded topics that are "strongly controversial" (Noelle-Neumann, 1989, p. 12). These morally loaded topics also must be in the realm of fluid opinion, as opposed to fixed or solid opinions that include such elements of society as good manners (Noelle-Neumann, 1989). The prominence of an issue in one's personal experience, however, does not appear to inhibit the spiral of silence process (Lasorsa, 1991). Morally loaded issues are those that the process of public opinion declares to be pressing, requiring that the issue

[1] Fear of isolation is not an *independent variable* in the model that can be operationalized, but instead it is a condition that is produced via "impending public scrutiny." It is the influential factor leading perception of majority opinion to produce opinion (Gonzenbach, 1992; Gonzenbach & Stevenson, 1994).

be brought to the negotiating table. These issues are emotional, value-laden, and evoke the perception of right and wrong but not exclusively in the sense of good and evil. The moral loading indicates that the issue is controversial and that reaching a consensus is of value to society (Noelle-Neumann, 1993, pp. 153, 229-233).

Salwen, Lin, and Matera's (1994) study of the spiral of silence using the issue of English as an official language illustrates the difference between a morally loaded and non-morally loaded controversial issue. In Miami and Phoenix, which both have large Spanish-speaking populations and had referenda on recent ballots concerning the issue, the issue would be considered morally loaded since it had been brought to the negotiating table, and reaching a consensus would be of value to those cities. In Carbondale, Illinois, on the other hand, the issue was not salient due to the lack of a sizable Spanish-speaking community. For those in Carbondale, the issue would not be morally loaded.

Assessing the climate of opinion. Individuals do not just experience fear of isolation in specific instances. Instead they continuously experience some level of this fear of isolation. Because of this, they continually scan their environment to try to assess the climate of opinion at all times. This climate of opinion includes both the *current* distribution of opinion and *future* prospects for the distribution of opinion, such as who will win the debate on an issue (Noelle-Neumann, 1991). Noelle-Neumann has called the process by which people sense moods and changes in public opinion the "quasi-statistical organ" (1974, p. 44; 1993). The sensed climate of opinion depends on who speaks up and who does not--or more importantly, who is covered by the press while speaking up, and who is not. Exemplars represent those who are covered by the press while speaking up. Both direct observation of others and the opinion climate conveyed by the media are measured by the quasi-statistical organ (Noelle-Neumann, 1984; 1989; Keenan, 1991).

The perceived climate of opinion need not be accurate compared to the actual public opinion (Taylor, 1982) as indicated by some (Donsbach & Stevenson, 1984; Park, 1985; Sun, 1992). In fact, part of the power in the theory comes from the misperception of the public opinion (Noelle-Neumann, 1977; Taylor, 1982). It is this misperception, often called "pluralistic

ignorance," that allows those in the minority to feel comfortable speaking up on an issue while a silent majority exists among the opposition. It is important to the theory from a mass communication standpoint for people to have the ability to perceive the tenor, or portrayed opinion distribution, of the media (Noelle-Neumann, 1989). This is especially true for television "with its color and sound (that) creates extensive confusion between one's own observation and mediated observation" (Noelle-Neumann, 1984, pp. 155-156). The misperception of opinion only occurs, however, when the opinion portrayed in the media is somehow skewed from reality. Disproportionate exemplar distribution is one way portrayed opinion is skewed in the media.

Exemplar studies have only examined effects on perception of current opinion. The spiral of silence theory also claims that people scan their environment for *future* public opinion, predicting which side will ultimately win (Noelle-Neumann, 1993). An investigation of the effects of poll reports on perception of opinion trends showed that even a static poll report could alter people's perception of which side was gaining ground (Keenan, 1991). Since exemplars have been shown to influence opinion more strongly than base-rate data, which includes polls, it is likely that exemplars may also influence perceived future public opinion.

The Effect of Exemplars on Opinion Expression

Polls have been found to make an impact on people's attitudes and on their willingness to express themselves on an issue, though the degree of such an impact appears to be mild (Keenan, 1991). Several have proposed that polls may affect the perception of public opinion and, therefore, expression as proposed in the spiral of silence (Keenan, 1991; Merkle, 1993), but the power of exemplars to have similar effects should be greater and of more interesting consequence.

"Given the strong effects of exemplars, the media might actually contribute to the spiral-of-silence process" (Brosius & Bathelt, 1994, pp. 75-76). News stories may fairly report the distribution of opinion by citing polls or making general statements. A one-sided distribution of exemplars, however, may outweigh the ability of base-rate data to facilitate a correct perception of public opinion and, therefore, may reduce the willingness of individuals to speak out on a subject when they perceive themselves to be in the minority.

Research Objective

This study examined the effect of a one-sided distribution of exemplars on willingness to express opinion publicly for a morally loaded issue. The effect of perception of public opinion on willingness to express one's opinion was also examined.

As stated above, when one's opinion is congruent with perceived public opinion, the likelihood of speaking out on the issue is greater than if congruency does not exist. In addition, if one's opinion is congruent with perceived future opinion, the likelihood of speaking out is greater than if congruency does not exist. Therefore, we hypothesized:

- H_1: A higher percentage of people perceived to hold an opinion on an issue that is congruent to one's own opinion corresponds with greater likelihood of speaking out, and
- H_2: A higher perceived likelihood that future distribution of opinion will be congruent with one's own opinion on an issue corresponds with greater likelihood of speaking out.

The spiral of silence theory ultimately predicts that a consonant portrayal of the distribution of public opinion in the media will increase expression in the direction of the portrayed opinion distribution. Combined with exemplar predictions, an unrepresentative distribution of exemplars will produce this consonant portrayal. Since the distribution of exemplars should directly predict expression, we further hypothesized:

- H_3: Expression favoring a position on an issue will be greater when exemplars are disproportionately distributed toward that position than when they are distributed in the opposite direction.

Method

Stimulus material. Three video news stories were created that would represent either a supporting, balanced, or opposing stance on the prayer in school issue. A news anchor's lead-in used in all three stories was taken from a local newscast. Following the lead, a professional actor's voice simulated a news reporter covering the issue. The voice was used under old black and white video of students praying in school during the 1950s. In all three versions of the story, the reporter ended this segment by saying, "Some see this as good, while others believe it harms the rights of

religious minorities." An exemplar was then inserted of Arthur Kropp of "People for the American Way" (time = :11) expressing opposition to such an amendment. To this point all three versions were identical.

After the Kropp exemplar, exemplars were varied depending on condition. In a "supporting" condition, the next four exemplars were of people who favored a prayer in school amendment (time =:35). In an "opposing" condition, the next four exemplars expressed opposition to the amendment (time = :51). The "control" condition followed Kropp's statement with two exemplars opposing an amendment (time = :28) and then two exemplars supporting it (time = :10). At appropriate points in each of these sets of exemplars, the "reporter" made transition statements to keep the flow of thought believable and smooth.

In all three conditions, the varied sets of exemplars were then followed by one additional exemplar featuring an attorney, Jay Seculow, expressing support for the amendment (time = :19). The actor then concluded the newscast by summing up the legislative hurdles necessary for such an amendment to pass and giving herself closing credit as "Carla O'Casey, Channel 6 News."

While the additional time devoted to the pro or con arguments was 43 seconds in each of the unbalanced conditions (:54 to :11 in supporting, :62 to :19 in opposing), time in the supporting condition was 5:1 in favor of the amendment compared to just over 3:1 against the amendment in the opposing condition. The control condition was not exactly balanced in regard to time with ten seconds additional argument on the opposing side (:39 to :29) representing a 4:3 ratio over the supporting condition. These slight time differences should not confound results. However, some bias may exist in the control condition in the direction opposed to the amendment.

The videos were previewed by six participants who were asked if they had seen the newscasts before or if there was anything unusual about them. None of the participants noticed anything unusual about the manipulated versions of the story, though two of them mentioned having seen a similar but different story presented by the same anchor. Though these two had seen the anchor's lead into the story, they both believed the story to be an actual newscast.

Experimental Procedure

A 3x3 experimental design was used with three exemplar exposure conditions (opposing, supporting, and balanced or control) and opinion divided into those who supported, those who were undecided, and those who opposed a prayer in school amendment. Participants were randomly selected for one of the three exposure conditions. After being exposed to the experimental stimulus, they then responded to posttest questions of actual opinion, perception of current public opinion and perception of future public opinion.

Pretest. A pretest was conducted at least two days prior to exposure to the stimulus material. Students were offered extra credit to participate in a short survey measuring issue controversy in order to assist in verifying the controversy component of passing a prayer in school amendment. Ten issues were listed and students were asked to rate each on an 11-point interval scale from "not at all controversial" (0) to "very controversial" (10). The ten issues dealt with increasing taxes, adoption by homosexual couples, nuclear power, banning handguns, prayer in schools, health care reform, military spending, electric cars, drug legalization, and the balanced budget amendment. Demographic information was also collected.

The pretest was administered by a different researcher than the one conducting the experimental session and posttest to prevent participants from making a connection between the two allegedly separate studies.

Controversial nature of issue. In order to determine if the issue of a prayer in school amendment was controversial, responses rating controversial levels of various issues were analyzed. Issues were ranked from least controversial (1) to most controversial (10) for each respondent with averaged ranking scores assigned for tie ratings of controversiality. A Wilcoxon matched-pairs signed-ranks test was used to compare the controversial rankings of each issue. To prevent an inflated chance of committing a Type I error, the alpha level was divided by the number of comparisons, which required a $p < .0055$ for significance. Means of respondents' evaluations on the 11-point scale are also reported with 0 representing "not at all controversial" and 10 representing "very controversial.

The analysis of rankings between the prayer issue and each of the other nine issues revealed that the issue of a prayer in school amendment was more controversial than using nuclear power as a safe alternative to fossil fuels ($z = -5.2$, $p < .001$; $M = 5.3$), increasing military spending to produce hi-tech weapons ($z = -3.6$, $p < .001$; $M = 6.1$), using electric cars to reduce greenhouse gas emissions ($z = -7.51$, $p < .001$; $M = 4.0$), and having a balanced budget amendment ($z = -4.63$, $p < .001$; $M = 5.7$). It was not as controversial as the issue of whether same sex couples should be allowed to adopt children ($z = -5.09$, $p < .001$; $M = 8.8$). The prayer in school amendment ($M = 7.3$) was not significantly more nor less controversial than requiring employers to provide health care to employees ($M = 6.7$), raising taxes on the rich but not the poor ($M = 6.9$), legalizing drugs ($M = 7.7$), or banning handguns ($M = 7.8$).

Thus, while not being perceived as the most controversial issue, the question of whether or not to amend the constitution to allow students to pray out loud in public school should be sufficiently controversial to fit the requirements for that aspect of being a morally loaded issue. Also, this issue meets the requirements of a morally loaded issue as defined earlier because the issue of prayer in school is unarguably value-laden and evokes a perception of right and wrong. The notion that reaching a consensus is of value to society is evidenced by the ability of the researchers to record discussion of the issue from local and national news broadcasts.

Experimental exposure. Participants for the experimental session were recruited from the classes that had participated in the earlier pretest without being given reason to suspect any connection between studies. Students were randomized into different exposure groups by having them roll a die. They were then able to sign up for one of the sessions corresponding to a preassigned die number. Extra credit was offered for their participation. The 20 exposure sessions averaged 4.9 participants in each with a maximum of ten participants in one session and a minimum of one participant in two sessions. Students were recruited near the beginning of the semester to minimize familiarity among participants and, thereby, a possible source of bias. The researcher also monitored all experimental sessions to minimize interaction during exposure and eliminate interaction while questionnaire responses were being gathered.

Exposure to stimulus material was conducted in a lab facility with two tables and 10 chairs. The chairs faced a 25-inch television monitor on top of a 42-inch high cart. Upon arriving at the test facility, participants were informed that they were going to see three news stories. Participants were informed that the news footage they would see came from different broadcast sources. They were told that after viewing the newscast, they would receive questionnaires asking their perceptions of the newscasts and the stories in the news. Consent forms were then given to participants, and they were informed that their answers would be confidential.

Next, participants were shown the three TV news stories. The second news story focused on a proposed prayer in school amendment. One condition featured the five exemplars supporting the amendment and one opposing it, while a second condition featured the five exemplars opposing the amendment and one supporting it. The control condition featured three exemplars representing each side to provide a balanced presentation.

The first and third news stories addressed issues included only for disguise. The first of these dealt with a man who had been arrested for stalking Heather Whitestone, the reigning Miss America. The second disguise story was about a dispute over what requirements school boards had to satisfy to be released from court-ordered desegregation. This story was shown last.

Posttest questionnaire. After exposure to the stimulus material, the posttest questionnaire was distributed to participants. The questionnaire first asked respondents to tell "what percent of *Americans* do you think favor increased laws to protect people from stalkers," ". . . support a school prayer amendment giving public school students the right to pray out loud when they are given permission to speak in front of other students in an assembly or in class," and ". . . believe that court ordered desegregation should be ended once school boards have made all school facilities equal, whether or not student test scores are equal?" They were then asked the same questions in regard to the "*people of Alabama.*" These questions provided measures of perceived current national and state public opinion.

The second set of questions asked respondents to rate the future distribution of opinion by asking, "In the future, how likely is it that those favoring an amendment giving students the right to

pray out loud in an assembly or in class will win (i.e. an amendment will be passed)?" Similar questions were asked for the disguise issues. Responses to these questions were given on an 11 point equal-interval scale from "not at all likely" (0) to "extremely likely" (10).

Following these questions were two sections on the quality of the newscasts. These disguise questions asked which anchor had done the best job, which reporter was most professional, and which story featured the best graphic displays. One question asked participants to rate whether each story was objective or not. Others asked how each news team could have done a better job with the story they handled.

The next section asked participants to tell how likely they would be to use each of several methods to express their personal opinion regarding each of the issues covered by the news stories. The questionnaire asked the respondents, would you: "wear a T-shirt or hat expressing your opinion," "put a bumper sticker . . . on your car," "enter a discussion with a total stranger . . . ," "place yard signs . . . in your yard," "enter a discussion with people you know . . . ," "write a letter . . . to the editor of a newspaper," "call a talk show on radio or TV . . . ," "put up signs . . . in public places," "use an item that has a slogan on it . . . ," "allow yourself to be interviewed by a reporter about your opinion," "donate money to a group fighting either for or against such action," "sign a petition either for or against such action," or "distribute literature that represented your opinion door to door?" All these methods of expression were measured on an eleven point equal-interval scale from "not at all likely" (0) to "extremely likely" (11).

The next section was used to ascertain opinion after viewing the stimulus material. Participants were asked to tell how much they personally agreed or disagreed with each of the three issues. The prayer in school issue was measured with the statement, "A constitutional amendment allowing school prayer should give students the right to pray out loud when they are given permission to speak in front of other students in an assembly or in class." The statements in this section were rated on the scale "strongly disagree" (-5) to "strongly agree" (5).

Demographic information about the respondents was then collected including data on media usage, gender, political affiliation, age, and their student identification number.

Results

Expression Characteristics Analysis

In order to determine valid survey measures of speaking out, questions relating to willingness to express oneself on the issue of a prayer in school amendment were subjected to factor analysis (principal components, varimax rotation). Two factors emerged from the 13 variables accounting for 60.8% of the variance. Willingness to use bumper stickers, call radio or TV talk shows, go door to door to hand out literature, put signs up in public places, use an item bearing a slogan, wear a T-shirt, and use yard signs expressing one's opinion about this issue loaded highly on the first factor with all variables loading at .62 or above. Secondary loadings were less than .40. The factor explained 47.6% of the variance and had an eigenvalue of 6.19. The interitem consistency among these seven variables was high with Cronbach's alpha = .89. Ratings on these variables were averaged to create the composite measure, "public display expression," a label used previously by Keenan (1991).

The second factor comprised variables measuring willingness to express opinion by way of talking to people one knows, talking to strangers, signing a petition, and allowing oneself to be interviewed by a reporter. All variables loaded at above .60 and had secondary loadings at less than .40. The second factor accounted for 13.2 % of the variance and had an eigenvalue of 1.72. The interitem consistency among the five variables was high with Cronbach's alpha = .83. Ratings were averaged across these variables, and the resulting composite measure was labeled "debate expression" because the variables represented ways in which people would stand up and spar with other views about an issue. The results of the factor analysis are presented in Table 1.

Influences on Expression

Current opinion. The relationship between perceiving oneself to be on the side of current majority public opinion and willingness to speak out that was predicted in H_1 was tested using three different measures of expression and two measures of perceived public opinion. The variable scores for current national opinion and current opinion in Alabama first were modified to represent

Table 1
Factor Loadings for Measures of Expression

Factors	Factor Loadings	Secondary Loadings	Variance	Cronbach's Alpha
Factor 1: Public Display Expression			47.6%	.887
Put up signs in public places	.811	.231		
Distribute literature door to door	.791	.193		
Put yard sign in own yard	.783	.119		
Use bumper stickers	.781	.075		
Use an item with a slogan on it	.716	.271		
Wear a T-shirt or hat	.668	.251		
Call a talk radio or TV show	.620	.323		
Factor 2: Debate Expression			13.2	.819
Talk with people you know	.868	.090		
Sign a petition	.833	.158		
Talk with a stranger	.768	.163		
Allow reporter to interview you	.611	.353		

Note: Factor analysis performed with principal components and varimax rotation. Eigenvalues were greater than 1.0. Variables with primary loadings above .60 were included, and those with secondary loadings above .40 were then excluded.

the proportion of those who held congruent opinions (i.e. "percent who agree with me"). Respondents who reported neutral opinions were eliminated from consideration for these tests leaving a total of 84 respondents. Next, multiple regression was used to test the relationship between "percentage agreeing with me" and willingness to use "public display expression" about the issue. No relationship was found between national opinion and expression (b_1 = -.005, p = .80). Perceived opinions of Alabamans, however, were significantly related to "public display expression" (b_2 = .026, p = .047). Regression statistics are presented in Table 2.

The second test utilized multiple regression on the dependent variable, "debate expression." Neither perceived national opinion (b_1 = .042, p = .73) nor perceived opinion of Alabamans (b_2 = -.067, p = .58) was a significant predictor of this expression variable.

Table 2
Regression Table for Ability of Perceived Distribution of Current Opinion to Predict Public Display Expression

Source	*B*	SE	*b*	p
National Opinion	-.005	.020	-.028	.798
Alabama Opinion	.026	.013	.221	.047*

Note: Results marked with an asterisk (*) are significant individual predictors.
R^2 = .048, n = 84

The two modes of behavioral expression, signing a petition and allowing one's picture to be used in a brochure, were combined to develop one measure of behavior. This was necessary since only six participants were willing to allow their picture to be taken, a number too small for effective analysis. Participants who were willing to sign a petition or have their picture taken or both were coded as a "yes" (1), and those who did not respond behaviorally were coded with a "no" (2). These were again compared with both perceived national opinion and perceived Alabama opinion. Comparisons were first made by creating a dichotomous variable for congruent opinion with "majority of Americans agree with me" including congruent opinion perceptions of 51% or above and "majority of Americans don't agree with me" including perceptions that 50% or fewer held a similar opinion to the respondent. Then, since the position on the issue represented by the petition and brochure photo were alternated between supporting and opposing in each video condition, not all participants were tested on these expression measures. Only those whose opinions were congruent with the stated petition and photo position as determined by their response on the posttest were included in this analysis. In other words, if the session administrator asked for anyone who would be willing to have their picture included in a brochure *supporting* the prayer in school amendment, those who opposed such an amendment or were undecided about it were eliminated from these analyses. This was done since respondents with opinions contrary to the

behavioral measure would not be expected to respond behaviorally regardless of their perception of public opinion. Thus, only 37 respondents were included in the behavioral measures. Fisher's exact probability test was used in these analyses comparing those who either responded or did not respond across measures of those who theoretically were or were not expected to respond.

Behavioral expression was not significantly related to perception of being in either the national majority or the Alabama majority side of the issue. The percentage of people speaking out who perceived themselves to be part of the national majority was almost identical to the percentage of those perceiving themselves to be in the minority who expressed themselves. However, half of those who perceived themselves to be in the Alabama majority (12 of 24 respondents) spoke-out behaviorally compared to 31% of those who thought they were part of the minority (4 of 13 respondents, $p = .15$). Further study could find an effect here if this trend continued with larger numbers of participants.

Future opinion. Relationships between perception of future opinion and measures of expression were also tested. The measures of "public display expression" and "debate expression" were again used in these comparisons. The measure of future opinion was again adjusted to represent future opinion congruent with one's own opinion. Those who held no opinion or were neutral on the issue were again eliminated from this analysis, leaving 84 respondents remaining. Regression of congruent future opinion was performed on both expression measures with no significant relationships discovered ($b = .157$, $p = .19$ for "public display expression" and $b = .148$, $p = .22$ for "debate expression").

The behavioral measure was also compared with a dichotomized measure of perception of future opinion. Using Fischer's exact probability test comparing those who either responded or did not respond across measures of those who theoretically were or were not expected to respond, perceived congruent future opinion only approached being correlated with a significantly greater likelihood of speaking out than perceived incongruent future opinion $p = .089$. The trend in behavior indicates that a significant relationship might be achieved in further research since 52% of

those considered most likely to speak out did so (13 of 25 respondents), while only 25% spoke out in the group that should have been inhibited from expression (3 of 12 respondents).

Distribution of exemplars. In order to test the impact of distributions of exemplars on expression, an ANOVA was performed for each of the dependent measures, "public display expression" and "debate expression," across the independent variables of the posttest opinion measure and exemplar condition. Those who held neutral opinions were again excluded from the analysis. No interaction effects were found, contradicting the hypothesis. However, main effects were significant for posttest opinion on the measure of "public display expression" ($F(1,78) = 11.298$, $p < .001$). Those in favor of an amendment were more likely ($M = 3.77$) to speak up than those who opposed the amendment ($M = 2.16$). Main effects approached significance for posttest opinion on the measure of "debate expression" also ($F(1,78) = 3.82$, $p = .054$), with those who favored the amendment appearing more willing to speak out than those who opposed the amendment ($M = 7.4$ for those in favor and $M = 6.27$ for those opposed). Results of these tests are reported in Tables 3 and 4.

Behavioral measures were tested using crosstabs comparing congruence of distribution of exemplars by willingness to participate in a behavioral measure. No significant differences were found as a result of disproportionate distributions of exemplars. Trends of behavioral participation, however, would contradict the hypothesis in this area, since those in the balanced group seemed to be willing to speak out more readily than those in the one-sided conditions. The distribution of exemplars was one-sided in a direction congruent with 16 of the participants' opinions. Only six (38%) of these spoke up behaviorally even though they were expected to speak up most often. Out of 12 participants in the balanced exemplar condition, seven (58%) were willing to speak up concerning their opinion. The distribution of exemplars was contrary to the opinions of nine of the participants. This group was expected to remain largely silent, and in fact, only three (33%) spoke out.

Table 3a
Analysis of Variance Table for Impact of Posttest Opinion and Distribution of Exemplars on Personal Display Expression

Source	df	SS	MS	F(8,78)	p
Exemplar distribution condition (A)	2	11.64	5.82	1.11	.334
Posttest opinion (support, oppose) (B)	1	59.11	59.11	11.30	.001
A x B	2	9.60	4.80	.92	.404
Residual	78	408.08	5.23		
Total	83	488.42	5.89		

Table 3b
Means for Public Display Expression Related to Posttest Opinion and Exemplar Distribution

Posttest Opinion	Exemplar distribution condition			Total Population
	Supporting	Balanced	Opposing	
Supporting	3.17	4.97	3.54	3.77*
(n)	(21)	(14)	(18)	(53)
Opposing	2.27	2.29	1.96	2.16*
(n)	(7)	(12)	(12)	(31)
Total	2.94	3.73	2.91	3.18
(n)	(28)	(26)	(30)	(84)

Note: Means followed by an asterisk (*) differ from each other at $p<.01$ by the Tukey/Kramer method.

Table 4a
Analysis of Variance Table for Impact of Posttest Opinion and Distribution of Exemplars on Debate Expression

Source	df	SS	MS	F(8,78)	p
Exemplar distribution condition (A)	2	13.73	6.87	1.27	.286
Posttest opinion (support, oppose) (B)	1	20.61	20.61	3.82	.054
A x B	2	11.64	5.82	1.08	.345
Residual	78	421.31	5.40		
Total	83	467.30	5.63		

Table 4b
Means for Debate Expression Related to Posttest Opinion and Exemplar Distribution

Posttest Opinion	Exemplar distribution condition			Total Population
	Supporting	Balanced	Opposing	
Supporting	7.70	7.89	6.67	7.40
(n)	(21)	(14)	(18)	(53)
Opposing	6.67	5.78	6.37	6.27
(n)	(7)	(12)	(12)	(31)
Total	7.51	6.92	6.55	6.98
(n)	(28)	(26)	(30)	(84)

Note: Means for the total population on the posttest opinion variables fall short of being significantly different.

Discussion

The spiral of silence theory has fallen short in explaining effects on "debate expression" in the present analysis, though some support for spiral of silence effects was found on "public display expression." This study may encourage the adoption of further behavioral response research related to expression due to some indications that a larger study may prove successful at finding a spiral of silence effect. This research has also helped to shed light on the different forms the expression construct may assume.

Perception's Influence on Expression

No support was found for perception of any aspect of public opinion influencing "debate expression." "Debate expression" may be immune to fluctuation related to our perception of how widely accepted our personal opinion is. This is surprising in light of the spiral of silence theory's origins. Noelle-Neumann (1993) describes many tests for the spiral which employ measures of willingness to speak to others about an issue. These include placing participants in hypothetical situations involving talking with a stranger in a train compartment, asking people to finish a sentence responding to a confrontational statement by another, or asking participants to evaluate which opinion is likely to be held by someone who is shown to be disenfranchised from a group. Since these tests are the ones upon which the existence of the spiral of silence has been based, it is surprising that willingness to speak to strangers and people one knows are items in this expression measure wherein no differences were exhibited.

One explanation for this discrepancy may be that people don't believe they would be inhibited from talking to others due to some "fear of isolation." Thus, they do not respond accurately to direct survey questions that ask about willingness to speak out about their opinion. Noelle-Neumann (1993) describes a situation that arose during a lecture on fear of isolation at an American university where students were so offended by "the thought that Americans could experience fear of isolation . . . that many walked out of the auditorium" (p. 205). Thus, the validity of the "debate expression" measure may be in question.

"Public display expression," on the other hand, showed some signs of being adapted to fit the climate of opinion. The fact that perceived national opinion did not influence public display expression is not too surprising since the focus of participants was placed on Alabama opinions by the fabricated origin of the newscast being from a local Alabama station. Perceived opinion of Alabamans did influence public display expression as was expected. This provides partial support of H_1. The behavioral measure was too weak to provide conclusive results, but it does promote continued experimentation in this area with larger respondent pools participating.

The perception of future distribution of opinion did not measurably influence expression likelihood on these measures as predicted in H_2. Therefore, H_2 cannot be accepted in the present analysis.

Exemplar Effect on Expression

The most powerful form of media influence tested predicted that the distribution of exemplars would be able to influence expression (H_3). Spiral of silence theory predicts that the tenor of the media (represented with exemplars here) influences perceived opinion which in turn affects expression. Thus, findings were expected showing that expression could be predictably affected by manipulating the tenor of the media. This study gives indication that this does not happen. By examining the insignificant differences in means of "public display expression," it is clear that whether the distribution of exemplars was congruent with or counter to personal opinion, these did not heighten or diminish expression predictably. Balanced exemplar distribution actually may encourage more display expression than an unbalanced distribution if the trend in means were to hold up in a more powerful test. Some evidence of this same trend exists when crosstabs are analyzed on the behavioral measure. Again the balanced condition resulted in more expression than the unbalanced conditions. This same trend, however, is not clear in the means of "debate expression." H_3 is rejected. The single exposure setting utilized in the current research provided only a limited amount of stimulus. If repeated exposure were employed over time, clearer evidence of effects may have developed.

One possible explanation for balanced exemplar distribution tending toward causing greater levels of expression may be found in the proportion of exemplars espousing the one-sided view in the unbalanced conditions. When a majority becomes so large that the minority opinion is only rarely encountered, the majority can lose its motivation to speak up (Noelle-Neumann, 1984). As congruent sources approach being unanimous, the likelihood of expression drops (Sun, 1992). Since five out of six exemplars represented the majority position in each of the unbalanced distributions, this may have created a condition in which the majority began to lose motivation due to their opinion being clearly in the majority in the media.

Opinion Effect on Expression

Significant relationships existed between opinion and willingness to express one's opinion using "public display expression," and results also seem to indicate a relationship is likely between opinion and "debate expression." Thus, it seems an influence outside the boundaries of the experiment must be at work here. Of those who participated in the experiment, two times as many were in favor of a school prayer amendment as were opposed to it. As Moscovici and Large (1976) have shown, the majority in a small group setting may influence the minority and vice versa. The minority often retreats when faced with the majority (Moscovici, 1985). In this study, though the opinions of other participants were supposedly recorded only on paper, there may have been non-verbal cues that allowed those in the minority to sense their status. Thus, shaking or nodding heads, sighs, degree of attentiveness, smiles, and so forth may have helped create an inhibition to expression for those in the minority based on small group influence rather than media influence.

Those who favor prayer in schools may be more inclined to speak up because they sense the issue more deeply and tend to be more "hard core" or "avant-garde" about their beliefs. Since the issue has only recently resurfaced as an element of the political agenda, those who support such an amendment may sense themselves as trailblazers and be willing to speak up more readily in all circumstances. Those who oppose such an amendment have had the benefit of prayer being

restricted from the public school setting since 1962 and may not sense the urgency and timeliness that perhaps promotes this avant-garde behavior (Noelle-Neumann, 1993).

A cultural bias may exist on this issue also (Park, 1985). This is the most likely explanation for these expression differences. Since this study was conducted in the "Bible-belt" region of the South, those who oppose prayer in school may sense their opinions are contrary to those of the broader fixed cultural values. This finding is similar to one identified by other researchers (Gonzenbach & Stevenson, 1994; Taylor, 1982). Gonzenbach & Stevenson (1994) recommended future research be done to address this specific point.

Forms of Expression

Two forms of expression were produced by factor analysis in this study. "Public display expression" included: putting up signs in public places, distributing literature door to door, calling TV or radio talk shows, and putting a yard sign in one's yard. These specific expression activities were also included in Keenan's (1991) "public display expression" factor. However, other expression activities identified here, such as wearing a T-shirt or hat, placing a bumper sticker on one's car, and using an item with a slogan on it, were part of a factor termed "personal adornment expression" when included by Keenan. In this study, these last three expression activities were not distinct from those in "public display expression."

The factor "debate expression" included the activities talking with a stranger, talking with people one knows, and signing a petition, activities also included in an "interpersonal contact expression" factor by Keenan. However, signing a petition was a weak link in Keenan's study since the factor loading was only .459 compared to .819 loading in the present analysis. The current study's "debate expression" factor also included being interviewed by a reporter. In Keenan's study, being interviewed by a reporter loaded on the "public display expression" factor instead.

A higher percentage of the variance was explained by the factors in the current study than was explained in Keenan's analysis (60.8% vs. 55.5%). Cronbach's reliability measure was also questionable on the variables in Keenan's "interpersonal contact expression" factor (alpha = .565).

Nunnally (1978) asserts that an alpha < .70 is unacceptable. The present study seems to provide a more reliable measure of forms of expression with alpha > .80 for both factors. Thus, results here may enhance future consideration of the multidimensionality of the expression construct.

Future Spiral of Silence Research

This study has provided some confirmation that perception of public opinion is related to willingness to speak out on an issue. However, as in past research, findings are at best mixed. This research used an issue that in some ways had only recently been placed on the public agenda. On the other hand, it is also an issue that has been around since verbal prayer was removed from the public schools in 1962. By using an issue placed on the public agenda relatively recently, it was hoped that a state of flux would be more evident providing clearer results of changes in willingness to speak out. This was not the case with this issue. Spiral of silence research needs to begin to identify the characteristics of issues or the phase in an issue cycle when changes in speaking out are most likely to occur. Such findings are necessary to advance the theory's predictive ability.

A direct link between media presentation of information and alteration in expression still to a large extent eludes researchers. Discovering a direct link between media presentation and expression would enhance the predictive ability of the spiral of silence theory.

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